

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

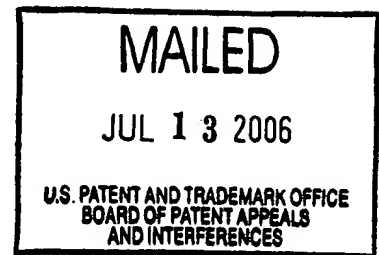
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICK L. ALLISON,
THOMAS MATTHEW MCCANN
and PETER JOSEPH MARSICO

Appeal No. 2006-2082
Application No. 09/649,461

ON BRIEF



Before THOMAS, KRASS and HOMERE, Administrative Patent Judges.

HOMERE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1 through 36, 39 through 49 and 53 through 69, all of which are pending in this application. Claims 37, 38, 50 and 51 have been cancelled by Appellants. Claim 52 has been withdrawn from consideration by the Examiner.

We reverse.

Invention

Appellants' invention relates generally to a method and system for automatically sending a short message service (SMS) message to a subscriber (108) in a mobile communications network in response to a change in location of the subscriber (108). Upon entering a foreign network, the mobile handset of the subscriber issues a plurality of call signaling messages to a visitor message service center (VMSC) (110) indicating that the subscriber is roaming outside of her home network. Upon receiving the call signaling messages, the VMSC (110) issues a request to the visitor location register (VLR) (116) to update its database to reflect that the subscriber (108) is roaming. The VLR (116), in turn, issues a location update request to the home location register (HLR) (109) via a signal transfer point (STP) (100). A service module (103) included in STP (100) then screens all messages exchanged between the HLR (109) and the VLR (116) pertaining to changes in location of the mobile subscriber (108). The STP (100) subsequently forwards all screened messages indicating the change in location to a message processing platform (MPP) (102). Further, the MPP (102) processes and correlates the screened messages to identify the change in location indication messages relating to the mobile subscriber

(108). The MPP (102) then forwards the identified change in location messages to a short message service center (SMSC) (104), which finally sends a short message to the mobile subscriber (108) via a gateway mobile switching center (GMSC) (106).

Claim 1 is representative of the claimed invention and is reproduced as follows:

1. A method for automatically generating and sending a short message service (SMS) message to a subscriber in a mobile communications network in response to a change in location of the subscriber, the method comprising:

(a) receiving, at a telecommunications network element, a plurality of mobile call signaling messages;

(b) screening, at the telecommunications network element, mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR) that relate to changes in location of mobile subscribers;

(c) correlating the screened mobile call signaling messages based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber;

(d) generating a change in location indication message based on parameters extracted from the correlated mobile call signaling messages;

(e) sending the change in location indications message to a short message service center (SMSC);

(f) in response to receiving the change in location indication message by SMSC, generating the SMS message intended for the particular mobile subscriber; and

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(g) sending the SMS message to the mobile subscriber, wherein performing steps (a)-(g) includes performing steps (a)-(g) automatically in response to the change in location of the particular mobile subscriber.

References

The Examiner relies on the following references:

Sladek	6,622,016	September 16, 2003 (filed October 4, 1999)
Baker	6,505,046	January 7, 2003 (filed November 19, 1998)
Jung	DE19805261	December 8, 1999
Brown	EP0710043	January 5, 1996

Rejections At Issue

A. Claims 1 through 4, 7, 8, 12 through 17, 20, 21, 25 through 27, 32, 34 through 36, 39, 40, 45 through 49 and 55 through 69 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sladek¹.

¹ We note that the Examiner's rejection improperly indicates that the Sladek reference qualifies as prior art against the claimed invention under 35 U.S.C. 102(b). The reference was not published one year before the effective filing date of the present application. It has, however, an earlier filing date than that of the present application. Therefore, the Sladek reference qualifies as prior art under 35 U.S.C. 102(e).

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B. Claims 5, 6, 9, 11, 18, 19, 22, 24, 41 through 44, 53 and 54 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sladek and Baker.

C. Claims 10, 23 and 28 through 31 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sladek and Jung.

D. Claim 33 stands rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sladek and Brown.

Rather than reiterating the arguments of Appellants and the Examiner, the opinion refers to respective details in the Briefs² and the Examiner's Answer³. Only those arguments actually made by Appellants have been considered in this decision. Arguments that Appellants could have made but choose not to make in the Briefs have not been taken into consideration. See 37 CFR 41.37(c)(1) (vii) (eff. Sept. 13, 2004).

² Appellants filed an Appeal Brief on January 31, 2005. Appellants filed a corrected Reply Brief on April 17, 2006.

³ The Examiner mailed a corrected Examiner's Answer on February 17, 2006. The Examiner mailed an office communication April 28, 2006, stating that the Reply Brief has been entered and considered.

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the Examiner's rejections, the arguments in support of the rejections and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in the rebuttal set forth in the Examiner's Answer.

After full consideration of the record before us, we do not agree with the Examiner that claims 1 through 4, 7, 8, 12 through 17, 20, 21, 25 through 27, 32, 34 through 36, 39, 40, 45 through 49 and 55 through 69 are properly rejected under 35 U.S.C. § 102 as being anticipated by Sladek. We also do not agree with the Examiner that claims 5, 6, 9, 11, 18, 19, 22, 24, 41 through 44, 53 and 54 are properly rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sladek and Baker. Additionally, we do not agree with Examiner that claims 10, 23 and 28 through 31 are properly rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sladek and Jung.

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Last, we do not agree with Examiner that claim 33 is properly rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sladek and Brown. Accordingly, we reverse the Examiner's rejections of claims 1 through 36, 39 through 49 and 53 through 69 for the reasons set forth *infra*.

I. Under 35 U.S.C. § 102, is the Rejection of claims 1 through 4, 7, 8, 12 through 17, 20, 21, 25 through 27, 32, 34 through 36, 39, 40, 45 through 49 and 55 through 69 as Being Anticipated By Sladek Proper?

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. See *In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

With respect to representative claim 1, Appellants argue in the Appeal and Reply Briefs that the Sladek reference does not disclose screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the

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messages. Particularly, at page 17 of the Appeal Brief, Appellants state the following:

With regard to message screening, claim 1 recites that a plurality of mobile call signaling messages are received at a telecommunications network element and messages relating to changes in location of a mobile subscriber are screened. As illustrated in step **ST9** of Figure 4A of the present application, targeted MAP message types are identified and copied to a message processing platform. Messages that are not identified as the targeted type are routed. Screening such signaling messages eliminates the need for triggers in the originating or terminating networks for SMS message generation. There is absolutely no disclosure, teaching or suggestion in Sladek of screening messages transmitted between an HLR and a VLR that relate to a change in location of a subscriber. As stated above, Sladek is directed to methods for altering the provisioned set of services to which a subscriber is entitled.

Further, at page 21 of the Appeal Brief, Appellants state the following:

With regard to message correlation, claim 1 recites correlating screened mobile call signaling messages based on a parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber. As illustrated in Figure 1 of the present application, the mobile call signaling messages that are screened and correlated include the change in location indication message, the update location request message, and the update location response message. Sladek does not even mention the work "correlate," not to mention correlating messages that relate to a change in location of a mobile subscriber.

To determine whether claim 1 is anticipated, we must first determine the scope of the claim. We note that claim 1 reads in part as follows:

(b) screening, at the telecommunications network element, mobile call signaling messages exchanged between a home location register (HLR) and a visitor location register (VLR) that relate to changes in location of mobile subscribers;

(c) correlating the screened mobile call signaling messages based on at least one parameter in the mobile call signaling messages to identify mobile call signaling messages in a dialogue between the HLR and the VLR that relates to a change in location of a particular mobile subscriber;

At page 14, line 24- page 15, line 2, Appellants' specification states:

Figure 4A is flow chart illustrating exemplary steps that may be performed by the processes illustrated in Figure 3 for performing MAP and SCCP screening functions for sending messages transmitted between an HLR and a VLR in response to a change in location of a subscriber when MAP screening process 328 is integrated with STP 100.

Further, at page 18, lines 20-24, Appellants' specification states:

Message processing platform 102 includes message correlator/generator 102a for correlating MAP messages and for generating a change in location indication message. Figure 5 illustrates exemplary steps that may be performed by message correlator/generator 102a in correlating MAP messages and generating the change in location indication message.

Thus, the claim does require screening mobile call signaling messages, and correlating said messages exchanged between a home

location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages.

Now, the question before us is what Sladek would have taught to one of ordinary skill in the art? To answer this question, we find the following facts:

At column 10, lines 35-56, Sladek states the following:

Example serving system 36 is principally a wireless serving system, which typically comprises a mobile switching center (MSC) 35, such as a Telcordia MSC. Serving system 36 serves a plurality of wireless subscriber stations, of which an exemplary station 56 is shown coupled via an air interface 58 and base station 60. Serving system 36 further typically includes a visitor location register (VLR) 37, which maintains service logic (e.g., profiles) for wireless stations currently being served by system 36. Serving system 36 is also coupled via STP 46 to a home location register (HLR) 62, which, in this example, serves as the home register for wireless station 56. HLR 62 may perform AIN functions for calls being served by system 36. For instance, when serving system 36 receives a call for station 56 and station 56 is busy, serving system 36 may encounter a trigger and responsively pause processing and send a signaling message via STP 46 to HLR 62. HLR 62 would then interpret the message and apply its own service logic, and HLR 62 would then return a response signaling message via STP 46 to serving system 36, instructing serving system 36 how to handle the call. In addition, SCP 48 may perform AIN functions for serving system 36 in a similar fashion.

At column 14, line 57 to column 15, line 50, Sladek states the following:

As an example, when mobile station 112 is first turned on (powered up) in or enters serving system 138 (even if the serving system is the subscriber's home system), equipment in the serving system detects the mobile station (identified by its MSID and/or ESN, for instance). The serving system then determines the network address (e.g., SS7 "point code") of the subscriber's HLR 134, typically by reference to a local table (based on inter-system roaming agreements or other information). Provided with the address of HLR 134, the serving system then sends a registration notification (REGNOT) message, via link 130, STP 128 and link 136, to HLR 134, typically as payload in a TCAP message. Alternatively, if applicable, the serving system may simply send a REGNOT message to an HLR associated with the serving system, and the HLR can identify the subscriber's HLR and forward the REGNOT to that HLR.

The REGNOT message serves to notify the HLR of the subscriber's location, which is important information for the HLR, to allow the HLR to properly direct calls and other services (e.g., messages) to the subscriber. (For instance, when a serving system receives a call for a subscriber, if the serving system does not have a record for the subscriber in its VLR or if otherwise desired, the serving system might be arranged to send a location request (LOCREQ) message to the subscriber's HLR, and the HLR may then respond by providing the location of the subscriber. In turn, the serving system may set up and connect the call to the designated location.) In addition, the REGNOT message serves as a request for service qualification.

In response to a REGNOT message, the subscriber's HLR returns a regnot response message to the serving system. (Note that, by convention, initial messages or "invokes" (e.g., "REGNOT") are set forth in all caps, while response messages (e.g., "regnot") are set forth in lowercase). According to the IS-41/IS-771

standards, one of the parameters of the regnot response is the subscriber profile (or, more accurately, a profile "macro" that references a list of applicable parameters) for subscriber 112. Upon receipt of this response, serving system 138 stores the subscriber profile in VLR 142 for later reference.

As another example, upon the expiration of a previous service qualification or for any other specified reason, the serving system may ask the HLR to update the local service qualification for a subscriber. According to IS-41/IS-771, the serving system can do this by sending a QualificationRequest (QUALREQ) message to the HLR. The HLR would then respond to a QUALREQ message with a qualreq response message, that, like the regnot message, provides the serving system with information including the subscriber profile. And, again, the serving system would store the updated profile in its VLR.

As yet another example, whenever the subscriber's service profile at the HLR changes in some way that may impact the profile recorded in the serving system, IS-41/IS-771 recommends that the HLR be programmed to send an updated profile to the serving system. The HLR can do this by sending a QualificationDirective (QUALDIR) message to the serving system. Like the regnot and qualreq response messages, the QUALDIR message provides the serving system with information including the subscriber profile, which the serving system will record in its VLR.

At column 16, lines 26-29, Sladek states the following:

SMS_OriginationRestrictions" and SMS_Termination Restrictions", which define the type of short text messages that the subscriber is allowed to send or receive.

With the above discussion in mind, we find that the Sladek reference teaches that when a mobile subscriber enters a foreign network, the subscriber's ID and HLR network address are determined such that a registration notification (REGNOT) message can be sent from a message switching center (MSC), which includes a visitor location register (VLR), to a home location register (HLR) via a signal transfer point (STP). Sladek also teaches that the subscriber can send or receive SMS messages. One of ordinary skill in the art would have duly recognized from Sladek's teachings that the disclosed MSC merely serves the function of switching and signaling for setting up calls to mobile subscribers, and that the disclosed MSC is not intended to perform the function of screening calls between the VLR and the HLR pertaining to a change in location of the subscriber. Similarly, the ordinarily skilled artisan would have duly recognized that Sladek's disclosed STP, while being in the communication path between the VLR and the HLR, is limited to performing the function of routing signals, and not screening calls between the VLR and the HLR pertaining to a change in location of the subscriber. Consequently, we find error in the Examiner's stated position, which concludes that Sladek teaches screening mobile call signaling messages, and correlating said

messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages. Therefore, we will not sustain the Examiner's rejection of claims 1 through 4, 7, 8, 12 through 17, 20, 21, 25 through 27, 32, 34 through 36, 39, 40, 45 through 49 and 55 through 69 under 35 U.S.C. § 102.

II. Under 35 U.S.C. § 103, is the Rejection of Claims 5, 6, 9, 11, 18, 19, 22, 24, 41 through 44, 53 and 54 as Being Unpatentable over the combination of Sladek and Baker Proper?

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). **See also In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

With respect to dependent claims 5, 6, 9, 11, 18, 19, 22, 24, 41 through 44, 53 and 54, Appellants argue in the Appeal and Reply Briefs that the combination of Sladek and Baker does not render the cited claims obvious. First Appellants argue that Sladek lacks the limitations of representative claim 1, as previously argued. Further, Appellants argue that Baker does not cure the deficiencies of Sladek. We agree with Appellants that the combination of Sladek and Baker does not render the cited claims obvious. As noted in the discussion of representative claim 1 above, we find that Sladek does not teach screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor

location register pertaining to changes in location of mobile subscribers to thereby identify the messages. Further, we find that Baker⁴ does cure those deficiencies either. Thus, the combination of Sladek and Baker does not teach screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages.

After consideration of the record before us, we find that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention as set forth in claims 5, 6, 9, 11, 18, 19, 22, 24, 41 through 44, 53 and 54. Accordingly, we will not sustain the Examiner's rejection of claims 5, 6, 9, 11, 18, 19, 22, 24, 41 through 44, 53 and 54.

III. Under 35 U.S.C. § 103, is the Rejection of Claims 10, 23, 28 through 31 as Being Unpatentable over the combination of Sladek and Jung Proper?

With respect to dependent claims 10, 23, 28 through 31, Appellants argue in the Appeal and Reply Briefs that the

⁴ We note that Baker is being relied upon for its teaching of using VLR Id and HLR Id as parameters in generating a change in location indication message.

combination of Sladek and Jung does not render the cited claims obvious. First Appellants argue that Sladek lacks the limitations of representative claim 1, as previously argued. Further, Appellants argue that Jung does not cure the deficiencies of Sladek. We agree with Appellants that the combination of Sladek and Jung does not render the cited claims obvious. As noted in the discussion of representative claim 1 above, we find that Sladek does not teach screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages. Further, we find that Jung⁵ does not cure those deficiencies either. Thus, the combination of Sladek and Jung does not teach screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages.

After consideration of the record before us, we find that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art

⁵ We note that Jung is being relied upon for its teaching of date and time as

the invention as set forth in claims 10, 23, 28 through 31. Accordingly, we will not sustain the Examiner's rejection of claims 10, 23, 28 through 31.

IV. Under 35 U.S.C. § 103, is the Rejection of Claim 33 as Being Unpatentable over the combination of Sladek and Brown Proper?

With respect to dependent claim 33, Appellants argue in the Appeal and Reply Briefs that the combination of Sladek and Brown does not render the cited claims obvious. First Appellants argue that Sladek lacks the limitations of representative claim 1, as previously argued. Further, Appellants argue that Brown does not cure the deficiencies of Sladek. We agree with Appellants that the combination of Sladek and Brown does not render the cited claims obvious. As noted in the discussion of representative claim 1 above, we find that Sladek does not teach screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages. Further, we find that Brown⁶ does not cure those deficiencies either. Thus, the

being one of the parameters in generating a change in location indication message.

⁶ We note that Brown is being relied upon for its teaching of periodically sending a location update message within a predetermined amount of time.

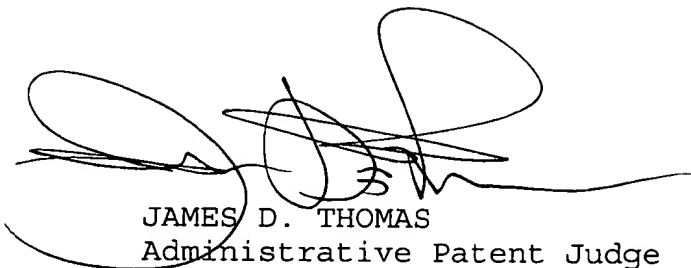
combination of Sladek and Brown does not teach screening mobile call signaling messages, and correlating said messages exchanged between a home location register and the visitor location register pertaining to changes in location of mobile subscribers to thereby identify the messages.

After consideration of the record before us, we find that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention as set forth in claim 33. Accordingly, we will not sustain the Examiner's rejection of claim 33.

CONCLUSION

In view of the foregoing discussion, we have not sustained the Examiner's decision rejecting claims 1 through 4, 7, 8, 12 through 17, 20, 21, 25 through 27, 32, 34 through 36, 39, 40, 45 through 49 and 55 through 69 under 35 U.S.C. § 102. We have also not sustained the Examiner's decision rejecting claims 5, 6, 9 through 11, 18, 19, 22 through 24, 28 through 31, 33, 41 through 44, 53 and 54 under 35 U.S.C. § 103. Therefore, we reverse.

REVERSED




JAMES D. THOMAS)
Administrative Patent Judge)



ERROL A. KRASS)
Administrative Patent Judge)

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